

Work Order ID 158318***158318***

Page 1

Monday, March 20, 2017 10:58:23 AM

Item ID: D206-667-103TRN

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Crosstube Turning Detaill

Start Date: 3/20/2017 Start Qty: 1.00

1

Cust Item ID:

Required Date: 3/24/2017 Req'd Qty: 1.00

1

Customer:

Reference: SCHEDULED

Approvals: Process Plan:

DAS
21
9-89

Date:

MAR 20 2017

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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D206-667-143	Rev C
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100

0.20

100

MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

2.05

Mori Seiki CNC Lathe Large

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA087

2-Turn first side as per Folio FA087

3-Blend transition lines only, **do not sand whole tube**:

FOLIO REV: ABDWG REV: #C

*Use mill bastard file, brush file repeatedly with file card.

*Do not use sandpaper coarser than 320 grit.

17/3/17

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110

QC

Memo

0.00

Quality Control

DAS
23
9-89DAS
23
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		

Root Cause			FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :						
Misidentified	☐	Past Due	☐							

Work Order ID 158318***158318***

Page 2

Monday, March 20, 2017 10:58:23 AM

Item ID: D206-667-103TRN

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N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Crosstube Turning Detaill

Start Date: 3/20/2017 Start Qty: 1.00

1

Cust Item ID:

Required Date: 3/24/2017 Req'd Qty: 1.00

1

Customer:

Reference: SCHEDULED

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursTool ID Tool # Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

0.04

120

MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

1.70

Mori Seiki CNC Lathe Large

1-Turn second side as per Folio FA087

2-File down transition lines smooth.

3-Blend transition lines only, **do not sand whole tube**;

*Use mill bastard file, brush file repeatedly with file card.

FOLIO REV: 4BDWG REV: C

*Do not use sandpaper coarser than 320 grit.

17/3/29

130

0.00

130

QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

DAS
23
9-89

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
81				81					
								Completed By	
								Lead hand / Supervisor Approval Verification	
QC / QA Coordinator Approval									

Root Cause			FAULT CATEGORY					
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong			
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions			
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance			
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect			
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing			
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved			
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing			
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish			
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread			
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence			
Past Expiry Date ☐	☐ Manufacturing Process	OTHER : _____						
Misidentified ☐	☐ Past Due							

Work Order ID 158318

Monday, March 20, 2017 10:58:23 AM

158318

Page 3

Item ID: D206-667-103TRN

Revision ID:

Item Name: Crosstube Turning Detaill

Start Date: 3/20/2017 Start Qty: 1.00

Required Date: 3/24/2017 Req'd Qty: 1.00

Reference: SCHEDULED

Approvals: Process Plan: Date:

QC: Date:

Accept

N900040100Setup Start ***NS1***Stop ***NS2***

Cust Item ID:

Customer:

Run Start ***NR1***Stop ***NR2***Sequence ID/
Work Center ID

140

140

QC

Quality Control

Operation
Description

QC8- Inspect parts - second check

Memo

Set Up/
Run Hours

0.00

0.02

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
StampDAS
47

17-04-06

145

145

Crosstubes

Crosstubes

Memo

GRIND ONLY TRANSITION LINES SMOOTH LONGITUDE WAY.

0.00

0.23

APR 17-04-07

150

150

HandFXtube

Hand Finishing Crosstubes

Memo

1- PRESSURE WASH X-TUBE INSIDE AND OUT

2- ALODINE AND ACID ETCH X-TUBE INSIDE AND OUT. USE RED
SCOTCH BRITE

0.00

1.55

(x1) ✓

2017/05/01

BEB.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
CAG TA									
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	☐ OTHER :			

Work Order ID 158318

Monday, March 20, 2017 10:58:23 AM

158318

Page 4

Item ID: D206-667-103TRN

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Crosstube Turning Detail

Start Date: 3/20/2017 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 3/24/2017 Req'd Qty: 1.00 ***1***

Customer:

Reference: SCHEDULED

Run Start ***NR1***

Approvals: Process Plan: Date:

Tooling:

Date:

Stop ***NR2***

QC: Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

QC7-Inspect Chemical Conversion Coat

0.00

160

QC

Memo

0.02

Quality Control

68-6
28
DAS

17-05-23

170

Packaging

0.00

170

Packaging

Memo

0.00

Packaging

Identify and stock in kanban rack Location: UG14DAS
37
9-89

17-05-23

180

QC21- Final Inspection - Work Order Release

0.00

180

QC

Memo

0.10

Quality Control

17/5/23

DAS
21
9-89

MAY 23 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Picklist Print

Monday, March 20, 2017 10:58:31 AM

Page 1

Work Order ID: 158318

158318

Parent Item: D206-667-103TRN

D206-667-103TRN

Parent Item Name: Crosstube Turning Detaill

Start Date: 3/20/2017

Required Date: 3/24/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A 08-03-06 new issue DD verified by:ec
IPP Rev B 08.04.02 removed polish EC verified by DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6002-115		Manufactured	No			110	Each	70.0000	1	1			

D6002-115

Crosstube Material

**

Location	Loc Qty	Loc Code
HALL	60	
107867	60	
LG003	10	
69794	10	

DAS
23
9-89

17/3/23

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
BAO C1 98-1									
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

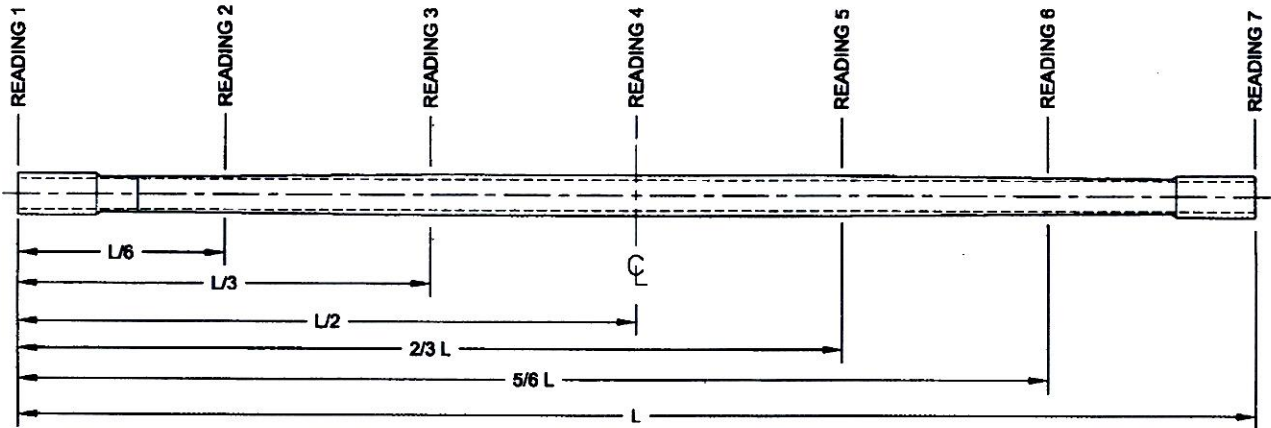
DART AEROSPACE LTD	Work Order:	158318
Description: Crosstube Assembly (206L High Fwd)	Part Number:	D206-667-143
Inspection Dwg: D206-667-143 Rev: C		Page 1 of 2

FIRST ARTICLE INSPECTION CHECKLIST

	Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.240	+0.005/-0.000	✓	✓		↑	
	1.982	+0.005/-0.000	1.986	✓			
	2.019	+0.005/-0.000	2.022	✓			
	2.058	+0.005/-0.000	2.061	✓			
	2.097	+0.005/-0.000	2.100	✓			
	2.136	+0.005/-0.000	2.138	✓			
	2.176	+0.005/-0.000	2.179	✓			
	2.201	+0.005/-0.000	2.204	✓			
						↓	
	0.125	+/-0.010	0.123	✓			
	0.400 x 30°	+/-0.010	0.400 x 30°	✓			
	R0.063	+/-0.010	R0.063	✓			
	R0.500	+/-0.010	R0.500	✓			
	4.438	+/-0.030	4.438	✓			
SIDE B	104.98	+/-0.020	104.96	✓		↑	
	2.240	+0.005/-0.000	2.245	✓			
	1.982	+0.005/-0.000	1.986	✓			
	2.019	+0.005/-0.000	2.022	✓			
	2.058	+0.005/-0.000	2.061	✓			
	2.097	+0.005/-0.000	2.099	✓			
	2.136	+0.005/-0.000	2.138	✓			
	2.176	+0.005/-0.000	2.179	✓			
	2.201	+0.005/-0.000	2.204	✓		↓	
	0.125	+/-0.010	0.123	✓			
	0.400 x 30°	+/-0.010	0.4 x 30°	✓			
	R0.063	+/-0.010	R0.063	✓			
	R0.500	+/-0.010	R0.500	✓			
	4.438	+/-0.030	4.438	✓			

DART AEROSPACE LTD	Work Order: 158318
Description: Crosstube Assembly (206L High Fwd)	Part Number: D206-667-143
Inspection Dwg: D206-667-143 Rev: C	Page 2 of 2

WALL THICKNESS MEASUREMENT



Location	WALL THICKNESS MEASUREMENT (IN)				Deviation Δw (max-min)	TOLERANCE
	w1	w2	w3	w4		
READING 1 L= 0"	253	255	265	272	0.019	0.035"
READING 2 L= 17.496	177	168	173	187	0.019	
READING 3 L= 34.99	259	249	252	267	0.018	
READING 4 L= 52.489	259	259	268	272	0.013	
READING 5 L= 69.985	246	244	264	272	0.018	
READING 6 L= 87.481	169	167	189	195	0.028	
READING 7 L= 104.98	257	259	267	268	0.011	

Calibration Result

Actual Block Thickness: .100-.250

Sitescan 250 Measured Thickness: .100-.250

DAS
23

DAS
47

Measured by:	DAS 23
Date:	17/3/29

Audited by:	DAS 47
Date:	17-04-06

Preliminary Approval:	
Date:	

Rev	Date	Change	Revised by	Approved
A	04.05.06	New Issue (P/O D206-667-103)	KJ/RF	
B	06.03.09	Dwg Rev updated	KJ/JLM	
C	10.09.13	Dwg Rev updated	KJ	
D	12.06.04	Wall thickness form added	KJ	

Item	Qty -143	Part Number	Description
1	X	D206-667-143	CROSSTUBE ASSEMBLY (206L HIGH FWD)
2	1	D6002-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2891-1	SUPPORT
6	4	D3595-063-395	RUBBER CUSHION
7	4	MS21920-20	CLAMP (OR MS21920-21)
8	14	MS20601AD4W8	RIVET (OR NAS9302B-4-8)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- MATERIAL: MANUFACTURED FROM D6002-115
FINISHED LENGTH = 104.98±0.020
- FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- UNITS: INCHES UNLESS OTHERWISE NOTED.
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-143" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- WEIGHT: 15.5 lbs
- PART IS SYMMETRIC ABOUT CENTERLINE.
- RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- BEND PROGRESSIVELY WITH A MINIMUM OF 10 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- INSTALL D2891-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- INSTALL MS21920-20 CLAMPS (OR -21) WITH D3595-063-395 RUBBER CUSHIONS TO SECURE THE D2891-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE LOCATED ON CROSSTUBE SUPPORTS.
- EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 158318 MLS
17-03-20

ocw #1-615
11.07.28

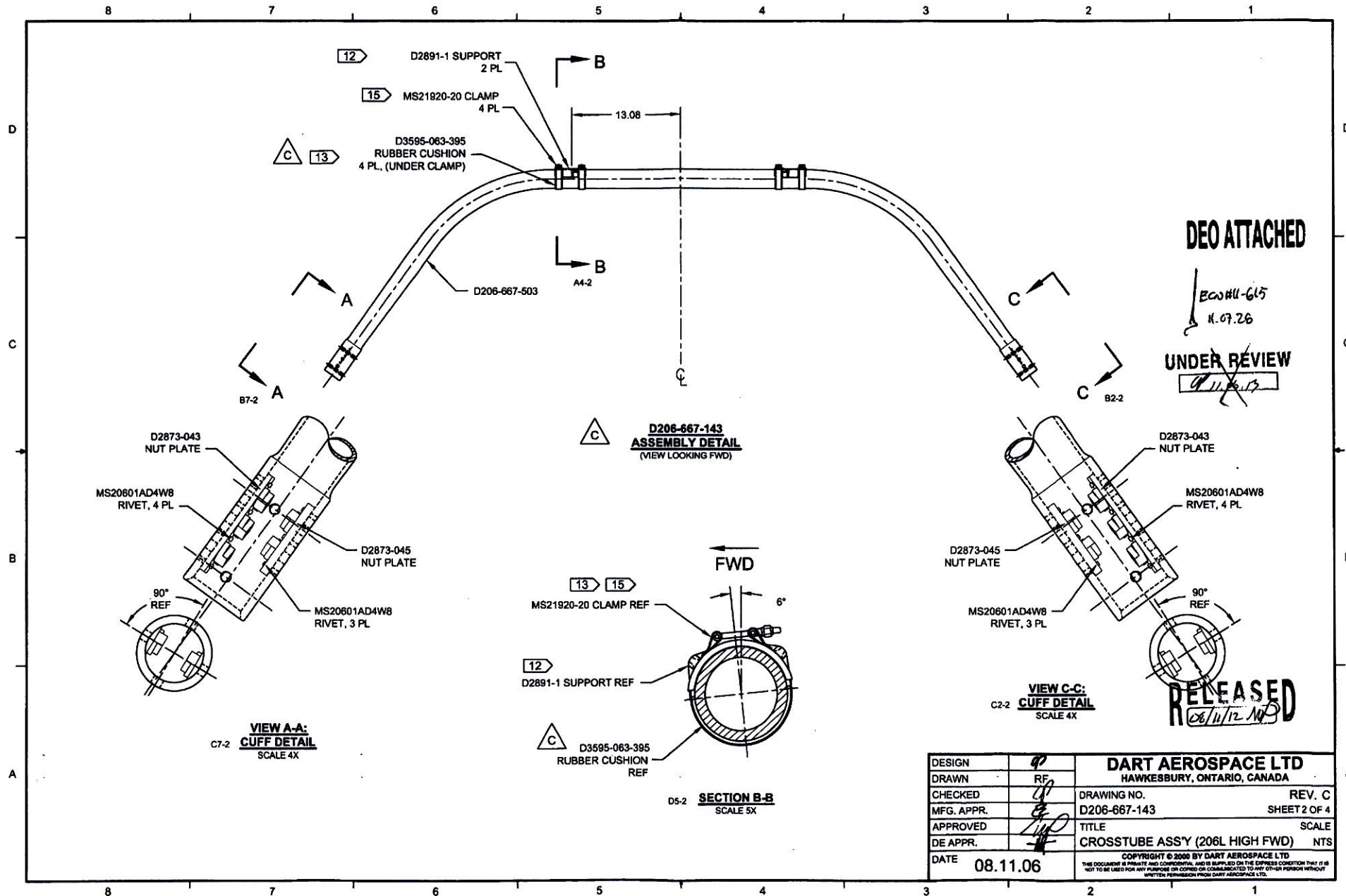
UNDER REVIEW

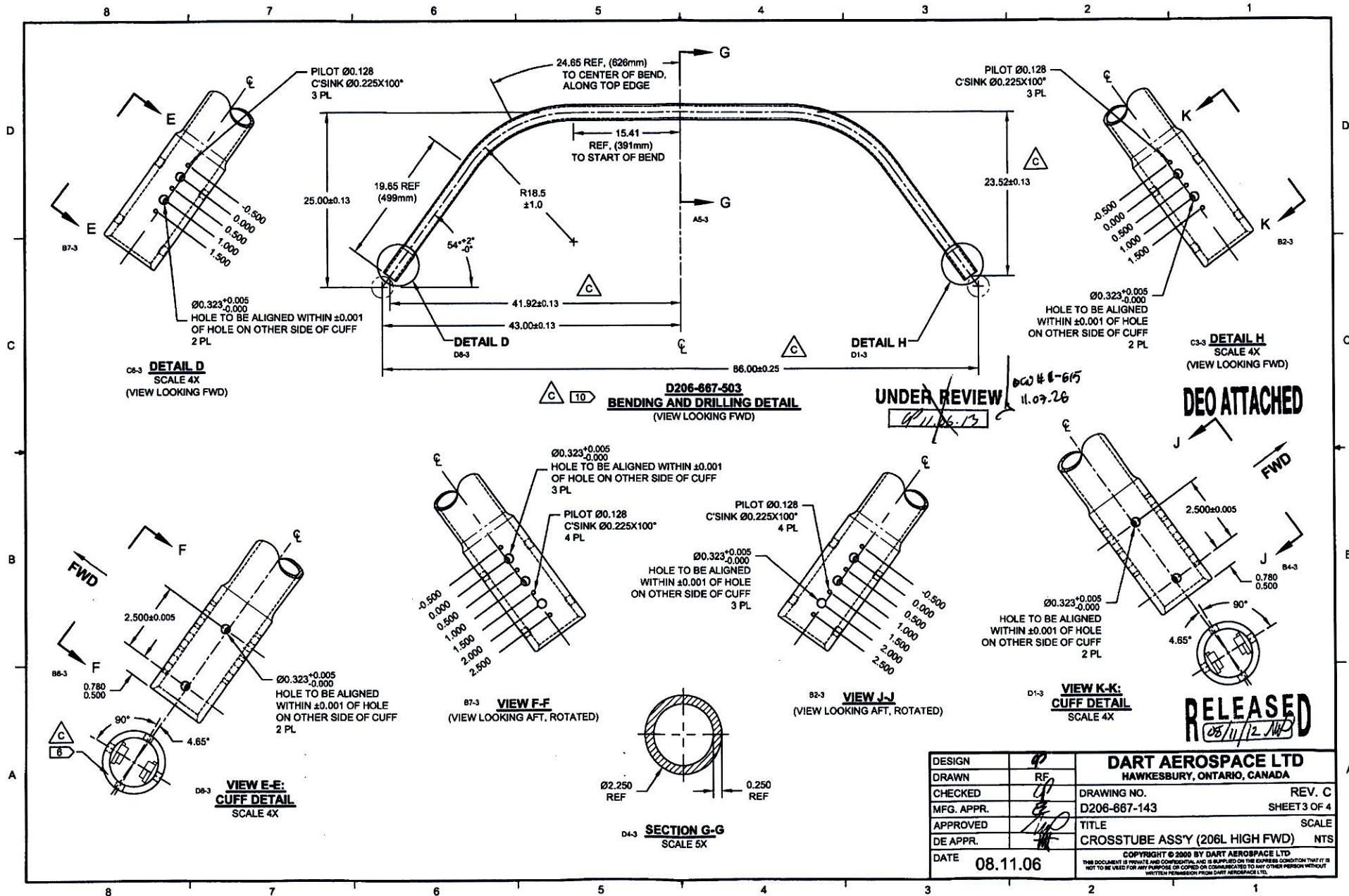
01/11/03

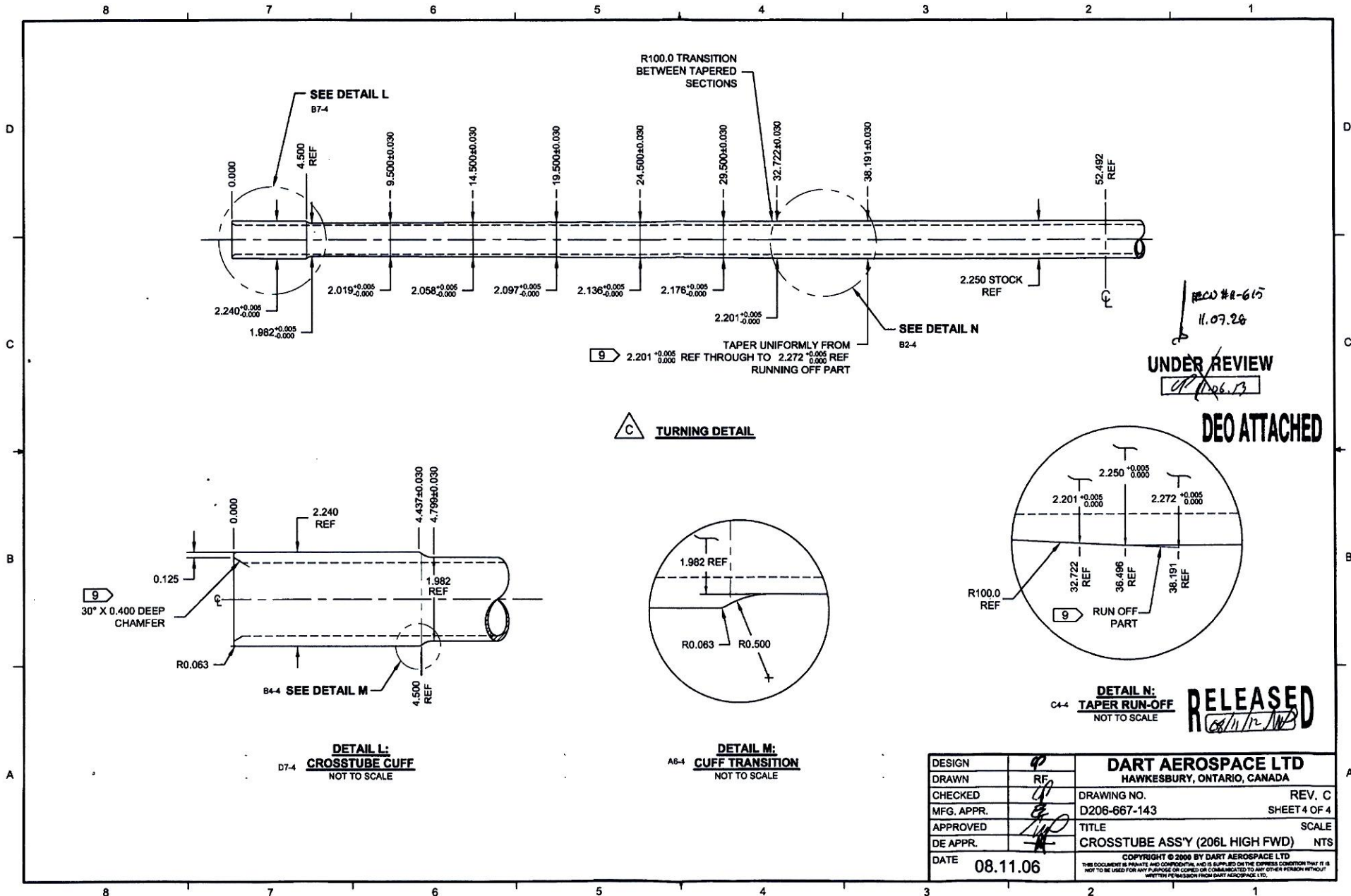
DEO ATTACHED RELEASED
08/11/12 MJB

C	REVISE GENERAL NOTES/PART LIST (ZN D7-1); REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS. D3595-063-395 WAS D2856-400-694 (ZN D6-2 & A5-2); REMOVED REF. & ADD TOLERANCE (ZN D3-3, C4-3, C5-3); RELOCATED FLAG #6 (ZN A8-3) PER NCR 210; MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	08.11.06
B	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKUDTUBES	PH	05.07.28
A	NEW ISSUE	CP	00.11.17
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN	RF		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	08.11.06		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D206-667-143	REV. C SHEET 1 OF 4
TITLE CROSSTUBE ASS'Y (206L HIGH FWD)	SCALE NTS
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DRAWING NO. D206-667-143	TITLE CROSSTUBE ASS'Y (206L HIGH FWD)	REV. C	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D206-667-143-C-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN 97	CHECKED ASS	MFG. APPR. [Signature]	APPROVED [Signature]		DE APPR. [Signature]		
DATE 11.07.15	DATE 11.07.20	DATE 11.07.21	DATE 11/07/21		DATE 11.07.21		

PURPOSE:

REPLACE MAGNOBOND WITH PROSEAL.

CHANGE:

IS:

Item	Qty -143	Part Number	Description
9	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2

WAS:

9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)
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NOTE 12 & 15, SHEET 1 IS AMENDED AS FOLLOWS:

IS:

- 12) TO INSTALL D2891-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. **PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.**

WAS:

- 12) INSTALL D2891-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

RELEASED
2011-07-28
[Signature]

DRAWING NO. D206-667-143		TITLE CROSSTUBE ASS'Y (206L HIGH FWD)		REV. C DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D206-667-143-C-2		SHEET NO. SHEET 1 OF 1		SCALE NTS	
DRAWN AJS		CHECKED		MFG. APPR. <i>E</i>		APPROVED <i>AP</i>		DE APPR. <i>TH</i>			
DATE 12.08.02		DATE 12.08.02		DATE 12.08.02		DATE 12.08.02		DATE 12-08-02			

PURPOSE:

ADD ELECTRICAL GROUNDING STRAP

CHANGE:

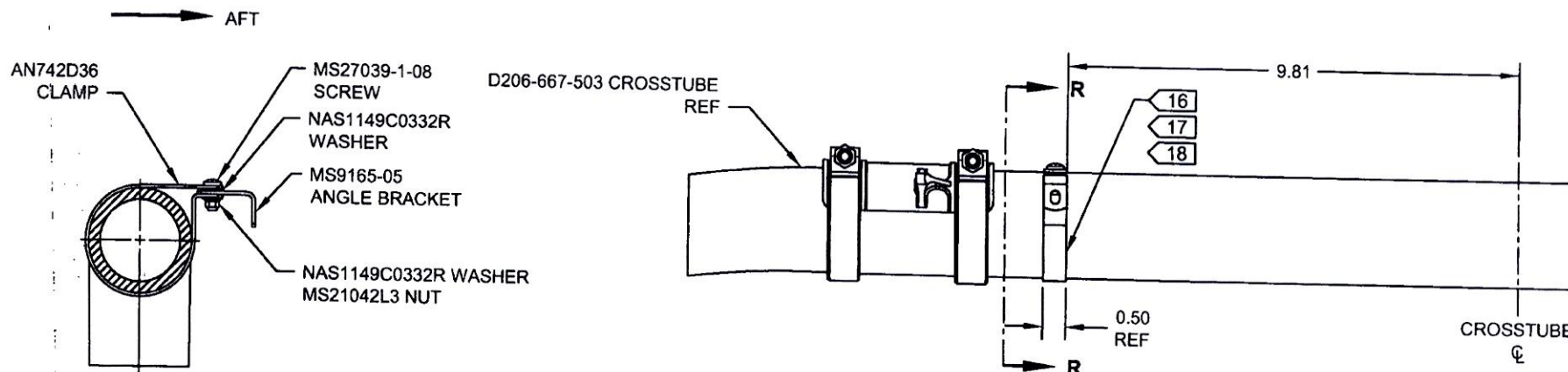
PARTS LIST:

ITEM	QTY -143	PART NUMBER	DESCRIPTION
1	X	D206-667-143	CROSSTUBE ASSEMBLY (206L HIGH FWD)
10	2	AN742D36	CLAMP
11	2	MS9165-05	ANGLE BRACKET
12	2	MS21042L3	NUT (OR MS21042-3)
13	2	MS27039-1-08	SCREW
14	4	NAS1149C0332R	WASHER (OR AN960C10L)

GENERAL NOTES:

- 16) MASK AREA UNDER CLAMP PRIOR TO PAINTING
- 17) SEAL EDGES WHERE AN742D36 CLAMP MEETS WITH THE CROSSTUBE USING SIKAFLEX-241/-291 OR MIL-S-8802 CLASS B2 OR PROSEAL 890 SEALANT
- 18) PERFORM RESISTANCE CHECK TO ENSURE MAX RESISTANCE IS 10 MILLIOHMS

RELEASED
CP 12.08.17
ECN 12-651



SECTION R-R

DETAIL P
BONDING STRAP INSTALLATION 2 PL